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A REPORT OF THE SECOND ANNUAL MEETING OF THE NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION

LILLIAN S. CUSHMAN
The School of Education, The University of Chicago

THE AIMS OF THE SOCIETY

To those who are not familiar with the initial efforts and aims of this association a word of explanation may be of interest. The society states that it has resulted from the conviction "that we are no longer fitting our youth for their opportunities in the way in which they must be fitted."

With a plea for greater social efficiency they present their purposes: First, "To bring to the attention of our national life, of our people, this realization of our shortcomings;" second, "To bring together the people most directly interested in this problem: first, those who have to do directly with industrial callings; next, the great manufacturers who depend on skill in these trades, and the schoolmasters who are to train the boys and girls; and, lastly, the great American public itself, which, after all, in all such questions is as directly concerned as any other party, but which is the one the most often left unconsulted." The society further emphasizes the belief that this problem is to be worked out "in a spirit of industrial peace, not in a spirit of industrial war," "because it is equally to the interest of the workingman, of the manufacturer, of the teacher, of the citizen, that the boys and girls may find an open door to opportunity by which they may fit themselves to be effective men and women in the industrial life of our nation."

THE WORK OF THE SOCIETY

During the past year the society has been actively engaged in the circulation of propaganda. Last spring a committee of ten was organized. The personnel of this committee is sufficiently representative and distinguished to insure a careful hearing for its first report which is as follows:

REPORT OF THE COMMITTEE OF TEN

The committee appointed to consider the relation of industrial education to the general system of education of the country is composed of members living in widely separated parts of the country. Since the appointment of the committee in the spring of 1908 it has been found practically impossible to prepare a final report. The following is therefore offered as a preliminary statement with regard to this matter.

The need for industrial training and the facts concerning our own lack of it have been so often repeated that they may be accepted. All who are acquainted with education in European nations know that in the matter of industrial education we are far behind such countries as Germany, that our apprenticeship system, even if materially extended, can offer industrial education to only a few; that there are practically no facilities for the training of the youth between the ages of 14 and 18 for industrial pursuits, and the opportunities for those who are in the trades to improve their skill by theoretical training is confined to isolated and occasional schools. It is also perfectly clear that this is an industrial age and that the education which is to serve for a whole people must take account of vocational training.

TWO GROUPS CONSIDERED

Assuming these facts as clearly demonstrated, it is evident that two distinct groups of our population are to be considered: (1) boys and girls between the ages of fourteen and eighteen who leave the grammar school and at present have no systematic opportunity for training in the industries; (2) the men and women now in the industries who desire to increase their skill and efficiency by further study. The problem of industrial training seems, therefore, so far as the schools are concerned, to be divided into practically two parts, according as it applies to one or the other of these groups.

THE INDUSTRIAL TRAINING OF YOUTHS

The vast majority of children leave school at the end of the grammar-school period, a number in fact leaving the school before that time. Any vocational school which has to serve this great group of citizens must evidently fulfill the following conditions:

(*a*) Such school must articulate at some point with the public-school system of the country, preferably with the grammar school. In other words, the grammar school must at some point in its course lead a boy or girl naturally into some vocational school, if such schools are to be fruitful to the great mass of youth.

b) If the grammar schools are to make this connection with the vocational schools, it is clear that the grammar schools should at some part of their course do their part in developing the vocational purposes of the pupils on the basis of enlightenment concerning the advantages of skilled vocations, including the trades. It is clear, also, that every study should be so taught as to bring out its application to life, particularly to the skilled vocations, although these studies should not be so taught in the grammar school as to provide preparation for any particular trade. It is clear, too, that the grammar school should introduce elementary industrial training in some form, either in the form of manual training at the bench or at the forge or in household pursuits wherever the training could be effectively given. Such an introduction of subjects for industrial training must come through the substitution of these subjects for something in the curriculum. The way of industrial education lies not in a more complex curriculum in existing schools, but in a larger variety of schools, each with a simpler programme and each seeking to do well the work it sets out to do.

c) Such schools as may articulate with the grammar school for the training of youths will therefore most likely assume the form of training schools for particular industries. They will be local in their character and will seek to serve the needs of the local industry. The boy or girl trained in them will not be a skilled journeyman in any trade, but will have received a fundamental training in those things which will make him a skilled journeyman in a short time and will at the same time prompt him to a higher form of vocational efficiency than he is likely to have had otherwise. In this respect the industrial training school for youth is likely to have much the same relation to the preparation of a skilled journeyman as the high-grade engineering school has to the preparation of a practical engineer.

SCHOOLS FOR THOSE ALREADY IN THE INDUSTRIES

Experience would seem to indicate that the schools which seek to serve those already in the industries will assume one of two forms:

a) Industrial-improvement schools.

b) Trade schools.

The industrial-improvement school has so far, as it is likely to do in the future, assumed the form of an evening school in which are taught the fundamental sciences upon which a trade rests, together with such technical information as can be given in a physical, chemical, or mechanical laboratory. For example, those who are engaged in the power station of an electric railroad, as motormen, as electricians, or as linemen, may in such a school learn the fundamental theory of electricity, the method of insulation, of electrical measurement, and of the transformation of energy, All of these principles may be illustrated before their eyes in the electrical laboratory, and they may thus acquire a foundation of knowledge which will enable them to become in time foremen, managers, or perhaps inventors. Such a school appeals only to the men of more than usual ambition and energy.

The pure trade school, on the other hand, undertakes to teach not alone the fundamental processes of a trade, but its technique. It therefore lays chief emphasis upon giving to its students such continuous practice as may bring them up to the point of expertness. It seeks to reproduce as nearly as possible the conditions of actual practice.

GENERAL CONCLUSIONS

It seems clear to your committee that schools of all the types which have been mentioned here, both for the youths and for the adults, are likely to be attempted, and in fact are being attempted in the various parts of the United States. The committee believes that all these types of schools are to be welcomed as experiments in the general problem which we are trying to solve. Success in industrial training does not depend upon the adoption of one type of school. A measure of success is likely to be achieved by all of these efforts, and in the judgment of your committee it is wise for those who have to do with industrial education to welcome during the next decade of experimentation all these forms of industrial education, whether they be in the form of a trade school for boys, an industrial improvement school for boys and adults, or a trade school for the workers of a trade. Ultimately, all these efforts will, by the force of educational gravitation, relate themselves to the public-school system of the country, partly by the adaptation of the public-school system itself, partly by the adaptation of these industrial schools. No series of schools can finally survive which does not so relate itself to the public-school education, since the source from which pupils are to be drawn must in the long run be the public schools. The committee, therefore, feels that any of these efforts undertaken in an intelligent, sympathetic, and proper spirit, is to be welcomed as a new contribution to the general problem of industrial education in the United States.

THE COMMITTEE OF TEN

Following is the membership of the committee:

Henry S. Pritchett, president Carnegie Foundation for the Advancement of Teaching, *chairman.*

Paul Hanus, Harvard University.

M. W. Alexander, General Electric Co., West Lynn, Mass.

Thomas M. Balliet, dean School of Pedagogy, New York University.

Elmer E. Brown, U. S. commissioner of education, Washington, D. C.

William Maxwell, superintendent of public schools, New York City.

President E. J. James, University of Illinois.

L. D. Harvey, superintendent of schools, Menomonie, Wis., and president National Educational Association.

THE BUSINESS MEETING

Certain legislation enacted at the business meeting defines the intention of the association concerning its campaign of the immediate future. An officer was authorized who will represent the society personally everywhere in the country as its officially delegated commissioner. This action was the result of the recommendation of the president, Carroll D. Wright. In his opening address he urged the importance of such an official, claiming that he should be a high-priced man, one of broad culture and experience, who could meet equally well the representative of the government, of educational, or industrial interests. The national congress was memorialized in recommendation that the Bureau of Education, now a branch of the Department of the Interior, be created a department. This recommendation carried the important corollary that a new cabinet officer be established, whose duty will be to conserve the educational interests of the country.

THE PROGRAMME

The text of the meetings was contained in the statement of Gov. Hoke Smith when he said that our government supplied a liberal education for the few and nothing for the 75 per cent. engaged in manual labor. Enlarging upon the natural resources of the country he emphasized the fact that development of the individual could obtain only when there was fair support for the family. He dwelt upon the need of statistics and information and expressed the belief that the national government should contribute directly to the solution of educational problems and distribute information to all parts of the country.

The national government was represented by Dr. Elmer Ellsworth Brown, United States Commissioner of Education. Dr. Brown spoke on "The Unifying Influence of Industrial Art." He dwelt on the fact that trade schools or technical schools of any kind should be intimately connected with the general movement of public education. He said in part:

We shall get a much better system of industrial education in this country if the new movement can be kept in close alliance with our great systems of public schools as already established, than if we undertake to set up an entirely new system that has no part nor lot in the general education movement of our time. The special phase of this subject of which I wish to speak is the unifying influence which is to be exerted within the next few years by industrial art and by the spirit of art as it is to be found in our general education and also in our industrial education.

It is difficult even at this day to speak of art before an American audience without seeming to belittle the subject under discussion. We have not yet got beyond the idea that art is something very like millinery. When I speak of the tendency of our time to emphasize the art side of education, what I have in mind is something much more serious and substantial. Art is that part of education which lays emphasis, first, on the excellence of the work done, apart from any extraneous consideration; and, secondly, lays emphasis on good taste in the product of the work. Our modern education has allied itself with modern science. That alliance is to be maintained and extended. But it has begun to ally itself also with modern art, and that alliance is to be one of the most important in the education of the future. It is already so well begun that we may count on it with confidence in the immediate future.

I am not forgetting that the topic of the evening has to do with industrial education as related to national prosperity, but let it not be forgotten either that the markets of the world are profoundly influenced already by the spread of popular education, and will be more widely influenced by popular education in the course of the twentieth century.

It was not until the nineteenth century that a majority of the population of the civilized world was able to read and write and had come under the influence of organized schools. In the course of the nineteenth century a large proportion, certainly more than three-quarters of the population of Western Europe and America, became a literate population—a people who had tasted the learning of the schools. Now that proportion will be still further increased in civilized communities within the twentieth century. Not only science but art is to be in the schools. The markets of the world must respond not only to a growing demand for modern appliances of comfort and convenience but also to a growing demand for excellence of finish and design.

For forty years or more this demand for fineness and beauty in manufactured products has been steadily gaining ground. Its influence has been clearly manifest in the great world-expositions. It has become a well-recognized element in international competition. But who can tell what momentum this demand will acquire when popular education shall become ten times as great a power in the world as it is today and when the schools shall become, to an incalculable degree, more alive to artistic ideals than they are today! The commercial advantage in that near future will rest with the nation that can make the finest combination of science and art, the finest combination of inventive skill with beauty of design and workmanship.

SCIENCE AND ART TO WORK TOGETHER

Science and art will have to work together to this end. Inventive skill and the ideals of genuine art do indeed work over into each other and each reinforces the other in the finer manufactures, where the higher grades of intelligence are already in demand. But the disciplines which go to make an educated man, all of them work together in the making of a high-grade artisan. Except for an occasional freak or a still more occasional genius, our main reliance for artistic performance must be a class of workers and designers who have ideas focused by training and training backed up by ideas. Industrial training alone, and particularly industrial training under teachers who themselves have been narrowly trained and never educated, will utterly fail to give us that great army of producers in the field of the finer manufactures which will be needed to supply demands that have already begun to appear. Our industrial education must be carried forward in the full sweep of our great systems of schooling for intelligence, schooling for character, schooling for citizenship, if they would keep from falling into a petty, mechanical, unproductive routine.

SPECIAL SCHOOLS MUST BE CONNECTED WITH PUBLIC EDUCATION

This does not mean that there should be no distinctive trade schools, or agricultural schools, or technical schools of any kind. Such schools, indeed, we must have. The need for them is imperative. But these special and technical schools must be brought into some intimate connection with the general movement of public education or they will fail. I am confident that they will not fail in the end. But they will win their success by bringing over into their new and difficult work of special training a full measure of that general intelligence and insight and strength of ideals which has made the public schools and the public-school teachers of our land so true a source of national pride and power.

The programme was centered upon three phases of industrial training, viz., the apprenticeship system, trade schools, and industrial education in the public schools.

The apprenticeship system of a new type and adequate to the needs of modern industry, was ably presented by Mr. E. P.

Bullard, Jr., president E. P. Bullard Machine Tool Co., and by the vice-president of the society, Mr. Magnus W. Alexander, of the General Electric Co., Lynn, Mass. Mr. Bullard urged that manufacturers give more attention to training their own apprentices. He said in part:

It is admitted by all that we need more skilled men and that some means must be devised for developing the inefficient and unskilled so that they may be valuable to themselves, their employers and to the community in which they live.

Where can these men be found? The supply is inadequate to the demand. Our public schools do not educate for any particular trade, our colleges do so broadly, but not specifically, our technical schools lay the foundation of engineering professions but relatively few have an opportunity to avail themselves of the courses offered. According to a writer in a recent periodical, which I beg leave to quote:

"Less than 5 per cent. of all the millions of school children in the United States ever reach the secondary school and it is safe to say that not more than 25 per cent. of the whole number ever go above the fifth grade; that is to say—of approximately 24,000,000 children enrolled in 1907 at least 18,000,000 will leave school between the fifth and sixth grades."

Think what this means industrially; it means that every year millions of American boys and girls—for all grow up to be Americans no matter where they were born—are sent out wherever workers are needed; to factories, to trades, to commerce, to all industries. They are turned out into a world of fierce competition utterly unfit to compete, into a world of splendid opportunities without the training of intellectual power to enable them to take advantage of these opportunities. Is it strange that skilled workmen are so few, or that the unskilled, low-wage occupations are so overcrowded, or that our armies of unemployed are larger every time depression brings them into notice?

Carefully devised apprenticeship systems successfully operated in the majority of our factories would do much to augment the existing supply of skilled and efficient workmen. They would insure workmen being educated along definite lines, thereby meeting the demand for competent leaders and executives. They would offer to young men of limited means, who would otherwise be forced into that large and growing class of unskilled labor, an opportunity to learn a trade. They would increase the efficiency of a plant, an industry, a people.

APPRENTICES PAY FOR THEMSELVES

Many large and successful concerns who have had apprenticeship systems in operation for a period of years, are unanimous in their statements that apprentices do pay. If properly instructed and intelligently directed, their employment is more profitable than the employment of the so-called skilled workman who has been available in the past. Apprentices pay as producers during their term of service; as competent skilled journeymen when they have completed their course; and as industrially intelligent foremen and executives later on. These boys who leave at the termination of their apprenticeship course become staunch supporters of the mother shop, always ready to say a good word for it, as loyal as college graduates to their Alma Mater, an unequaled advertising medium.

Does it pay the employee to serve an apprenticeship? I firmly believe it does. He is raised from the ranks of unskilled labor and given an earning power which he could not otherwise command. He is taught to work intelligently and to apply his mind to his work, thus increasing his opportunities for further development and advancement.

An apprenticeship should make the following provisions for the employee: A proper term of service to insure ample time for thorough instruction; sufficient remuneration to support the apprentice during his term of service; instruction in the technique of the trade and allied studies; instruction in the manipulation and care of the appliances of the trade; the fostering of a spirit of ambition and a desire for increased knowledge; and full recognition, upon the completion of the course, of what has been accomplished, by a diploma such as has been adopted by the National Machine Tool Builders' Association.

Magnus M. Alexander, of the General Electric Works at West Lynn, Mass., spoke on "An Effective Apprenticeship Programme." He offered suggestions drawn from the big apprenticeship school established by the General Electric Works, saying in part:

MANUFACTURERS SHOULD HAVE SCHOOLROOMS IN THEIR FACTORIES

A rational apprenticeship system in its final analysis is, after all, a trade school conducted in a factory. This at once implies that provision should be made whereby the apprentices are taught skill and at the same time receive a training of the mind. Any effective system of industrial education, whether promoted through apprenticeship in the factory, private trade schools, or the public-school system, must be based on the broad principle of correlated instruction in the trade itself and the related sciences, and an adequate amount of general culture.

Large manufacturers can take care of both sides of the apprenticeship question by initiating the boys into the trade and also giving them such classroom instruction as will enable them to carry out their work intelligently. Smaller employers can achieve the same general result by calling upon the public schools or existing private educational agencies, for the educational development of the boys, while they themselves teach the trade in their shops where, after all, the trade can best be taught. Manufacturers of a community may also combine by establishing joint schoolrooms for their apprentices. In any case, there should be close relation between theory and practice; the theory should be taught in as practical a way as possible and the practical work developed along educational lines.

COMMERCIAL WORK ADVOCATED

Inasmuch as apprentices are trained for industrial life, they should, as far as possible, be trained in industrial life, or in other words, should work from the beginning under conditions that approximate those under which they will later on earn their living as industrial workers. Accordingly the apprentice should start on commercial work, for this shows him his position as an economic unit in the factory organization and thereby clinches his interest. He sees that the product of his work is to be a part of some useful machine rather than a plaything or an object of exhibition in some show-case and therefore learns to appreciate the value of time and money.

For this commercial work, apprentices should of course be paid. While the amount of wage will depend to a large degree on local conditions and the prevailing compensation for labor, experience has shown that a liberal treatment of the apprentice-wage question will prove beneficial in the long run; it will enable the employer to select a high grade of apprentices and will allow the boys coming from poor homes and distant places to take advantage of this opportunity of trade training. Classroom instruction should be carried on during the working period for one or two hours every day and apprentices should be paid the same wages as when working at the bench or machine. It is a mistake to expect boys to come to school in the evening physically buoyant and mentally alert after a long day's work; they are then not in condition to reap the greatest benefit from the instruction.

Employers have so far refrained from taking boys under sixteen years of age, believing that they are neither physically nor mentally able to serve an apprenticeship at an earlier age. My experience has proved, however, that excellent material can be found among healthy boys from fourteen to fifteen years of age.

TRADE SCHOOLS

The subject of trade schools was discussed by Mr. George M. Carman, of Lewis Institute, Chicago, John H. Shrigley, president of Williamson Free School of Trades, and Florence M. Marshall, director Boston Trade School for Girls. Mr. Carman distinguished sharply between technical training and trade training. He said:

Much of the special or technical instruction that is needed today can be obtained after leaving school better than in school, if the school had furnished that broad and generous foundation which the education of after-life cannot supply. Too much technical training cannot be given, but it can come too soon and at too great a cost if it crowds out other instruction which cannot be had except in school.

We must distinguish between technical instruction and the trade school. Technical instruction may be given throughout the entire school period. There is a place for it in the education of the child in the elementary school and of the youth and adult in the secondary school, the college, and the university. Technical instruction may be preliminary to the actual work of a trade or supplementary to it. The trade school is a secondary school that fits its students for a trade just as other secondary schools may fit their students for colleges.

MAKE ELEMENTARY EDUCATION MORE INDUSTRIAL

Elementary education should be much more industrial than at present. Technical instruction has a place in the elementary school. It should be adapted to the needs of all children regardless of differences in sex, aims, and future occupations. I agree with Professor Dewey that the child in the elementary school should be led to consider and to get some practical hold of the activities that center in the family—the house and its structure; clothing and its construction; food and its preparation; that the only adequate basis for that unity and correlation of studies that gives interest to the work of the elementary school and makes it effective, is the child's own activities of primary expression—his constructive powers.

Mr. Shrigley, of the Williamson Free School of Trades urged a school of practice making nothing for sale. He said in part:

SCHOOLS CAN TURN OUT JOURNEYMEN

I recommend that the trade-school day be made eight hours long on five days of the week and about three hours on Saturday; that the trades taught be governed to some extent by the school's environment; and that the shops be well equipped with tools and appliances embodying the types of those the pupils must handle after graduation. The teachers should be masters of their respective trades; they must have had good general educational advantages, be well versed in mechanical drawing and mathematics and capable of readily imparting their skill and knowledge to the pupils. It will not answer to have schoolmen with a limited practical knowledge of trades as mechanical teachers.

It is advisable to have representatives of mechanical avocations on the Boards of trade schools. All trade work should be instructional and nothing should be made for sale. To manufacture for the market would not be scholastic, neither should schools be run as competitors of legitimate business enterprises or paid labor. Manufacturers should be fair in their treatment of school graduates. It is entirely practicable to have the trade-school course so thorough in practice as well as in theory, that the graduates will be at once qualified to work as journeymen.

Miss Florence M. Marshall, director of the Boston Trade School for Girls, spoke on behalf of women in industry:

TEACH TRADES TO GIRLS

All history proves that women have a right to industry. Moreover, many lines of industry are dependent on woman's skill, such as industries dealing with clothing and household products, and woman herself is dependent on the opportunity to participate in constructive industry in order to reach her highest development. The fact that a number of industries are able to use women's labor in the unskilled processes, and that the present organization of industry prevents their becoming skilled workers without training, necessitates provision for trade education.

Assuming that a study of the locality has revealed that three-fourths of the girls enter industries with a grammar-school training or less; that there is no opportunity for them to enter skilled industries because of lack of training, even though the industries are in need of skilled workers; and that the kind of work girls are doing is detrimental physically and morally, is lowering to their standard of living and hence having a bad effect on our future homes, the following scheme for a school is mapped out.

NO TRADE TEACHING BEFORE END OF COMPULSORY SCHOOL AGE

The requirements for admission should be at the limit of the compulsory school age. The course of study should combine a school and a workshop, the type of workshop to be determined by the skilled industry of the locality. The academic work should be definitely applied to the trades being taught. The technical work should be organized so that each year should fit for some definite step in the trade, so that the girl who could spend but one year could at least gain entrance to a skilled industry, even though her work be of the simplest character. The academic teacher should have the power to adapt the work to the demands of the trades, giving practical problems aimed at practical results. The managers of the workshops should be trade workers with teaching power, but the shops should be conducted according to the principles of the trade.

Such a plan presents many difficulties. None are insurmountable. The disposition of the product of such workshops, even in large cities, could never mean serious competition if the main aim is to produce workers, and the product is used as a means to that end. The individual character of instruction, necessitating small classes, might seem to present a serious difficulty in per capita cost, but the experience of the two schools conducted on the workshop plan shows that the per capita rate can be reduced to a figure less than that of the manual-training high schools. The necessity of conducting such a school during working hours rather than school hours has presented no difficulties in the places where it has been tried.

In a debate on the round table on evening-school work, Louis Rouillion, director of the educational work of the Mechanics' Institute of New York, stated that training at night schools was the most practical form of trade teaching. He said in part:

EVENING SCHOOLS BEST FOR REAL VOCATIONAL WORK

In great Britain the evening vocational schools are wielding so large an influence that all attempts at day training are almost eclipsed. In this country by far the larger amount of real vocational training that is definite and effective, is being done in the evening schools. The reason is not far to seek.

The evening school does not interfere with the pupil's present earning capacity, nor with his hours of labor. It only asks for some of the time that would otherwise be lost in idleness or in the pursuit of amusement. In vocational training the evening school has a decided advantage in that it does not have to force or urge a boy to select this or that trade, but finds him already employed as a plumber, a mason, or a carpenter, with his ambition aroused to excel in his trade. The mere fact that a lad elects to attend an evening school puts him in the select class of the actively ambitious. This is one reason why the tone of the evening trade schools and mechanics' institutes is pitched to a higher and truer key than obtains in similar day-school work. The earnestness and intensity of purpose of these students is a well attested fact.

There is heard much talk about the self-sacrifice and hardships in a boy attending evening school after eight hours labor at his trade. Any one who has had to do with evening-school work knows how misplaced is such sympathy. The school work is seldom a burden to the student, in most cases it is a real pleasure, as attest the faces of these students at their school work. This actual joy in their work is frequently reflected in the attitude and feelings of the teacher. The reaction upon him is not one of exhausting his nervous vitality, but quite the contrary.

EVENING SCHOOLS TO SOLVE THE PROBLEMS

Evening schools will, undoubtedly, be the solution of our problem that will be the most generally accepted in the immediate future and it is along these lines that we may look for the major part of all real vocational training.

There are two somewhat clearly defined types of evening technical schools along which lines the immediate development of vocational training will probably occur. One type is the trade school pure and simple where instruction is confined to the technique of the trade. The other type gives instruction only in such school subjects as will add to the efficiency of the boy as a mechanic. A school may advantageously combine these two types. If a carpenter attends a school of the former type he constantly has his hammer and saw in hand and is confronted with the intricacies of stair building or house framing. If he attends a school of the second type he is taught to make and read architectural drawings, to estimate on a job, to cypher, and is, perhaps, taught something of the properties of the materials with which his trade brings him in contact.

Schools of these two types may run into highly specialized forms and contribute largely and effectively toward increased industrial efficiency.

Mr. L. D. Harvey, Superintendent of Schools, Menomonie, Wis., and president of the National Educational Association, and Thomas M. Balliet, dean of School of Pedagogy, New York University, presented the claims of the public schools to an adequate system of industrial education. The *Atlanta Journal* reports Mr. Harvey as follows:

"I am glad to see that Georgia has established the type of school that has heretofore been lacking in our country, the secondary schools, the district agricultural schools, for the country boys and the country girls, to teach them how to intelligently and efficiently live their lives in the country."

This tribute to Georgia's pioneer work in secondary education that reaches the farm was enthusiastically applauded. Mr. Harvey said that until recently a tremendous majority of country children over city pupils has gone almost without recognition.

Mr. Harvey told of industrial training in the schools of his own town. The boy pupils, he said, especially are realizing the attractive inducements offered them by the training in the way of increased learning capacity. They are each year continuing in greater numbers their grammar-school work to the high-school grades. Only two pupils dropped out from the promoted eighth-grade classes this last term, he said, and the year before every scholar moved up to the high school.

When a boy can step from the second grade of the high school with two years of manual training into certain lines of work and earn from $2.50 to $3 a day, more than his father is making after forty years of work, as he can in Menomonie, said Mr. Harvey, his parents and the boy himself all say there is something to the new training, and generally the boys want to continue through the other two years of the course, in the belief that even greater advantages will accrue to them.

WHAT IS NEEDED

"I want to see some system that will hold our boys and girls in the public schools as long as possible. I don't want to see any system that will put a premium upon early withdrawal from school."

Mr. Balliet said in part:

MAKE MANUAL TRAINING PRACTICAL

So far as the elementary schools (apart from special vocational schools) are concerned, the following forms of vocational and industrial training are possible: cooking and sewing; manual training for all through the entire course; drawing, color work, design and the elements of industrial art for all. The closest possible co-ordination between the drawing and manual training should be made.

In manual training mere exercises should be eliminated and "projects," which appeal to the interest of children, made. The teacher may be interested in the exercises involved in the "projects," the pupil is interested solely in the thing made. When children make things which they are not even willing to sell, then manual training for them is industrial education. The product has high value for them, although it may have no market value.

Manual training of this kind appeals most strongly to children's interest, forms a natural transition to strictly vocational industrial training, and forms the broader training on which specialization in vocational training should be based. It bears the same relation to the latter as a liberal education does to professional training in the higher institutions of learning.

SHOULD ESTABLISH ELEMENTARY VOCATIONAL SCHOOLS

Special vocational schools should also be provided which would take the pupils at the age of twelve, regardless of the grade to which they belong in school, and give them a four years' course fitting them for some trade or vocation. Most communities will not be ready for several years or more to undertake the establishment of this type of schools although several cities have already done so.

In this type of trade school it will be difficult to hold boys until they complete the course. There is therefore danger of "flooding" the market with half trained boys to which just objections can be made by labor unions. Labor unions themselves can do much to prevent this by refusing to admit to membership boys who have not completed their course in school or as apprentices. Labor unions must ultimately have a voice in the management of trade schools as they now have in Germany.

We must establish evening trade schools in the shops of manual-training high schools. This has been done in a certain number of cities where there is such a day high school, and as this is the easiest sort of trade school—and the least expensive—to establish, it should be, under such circumstances, the first one to be undertaken.

OVERHAUL EVENING-SCHOOL SYSTEM

Our whole evening-school system needs overhauling. Our evening schools ought to provide for instruction in English and give the elements of the elementary school studies to foreigners. This is a problem which no other nation has to solve on so large a scale. They should provide facilities for pursuing the studies of the day elementary schools and high schools, to pupils who are forced to leave these schools. They ought to develop a large variety of vocational schools, the number and kind to be determined by the industrial and commercial conditions of the community. Extensive provision should be made in our evening schools for a high grade of instruction in industrial art and for this the instruction in drawing and design in the elementary schools should serve as a good preparation.

We should open trade schools in the shops of technical high schools where such exist. This would involve only very moderate expense. The preference should be given to men who are already at work either as apprentices or as journeymen. There are enough of such to fill this type of schools. This policy can, to some extent, also be followed in other evening trade schools. It will win the support, or at least disarm the criticism, of labor unions.

It is interesting to note the attitude of organized labor as expressed by its representative at this meeting.

Leon C. Sutton, editor of the *Labor World* of New York and New Jersey, spoke on "The Wage Earners' Benefit from an Effective System of Industrial Education." He urged the point of view of the wage earner, saying:

ORGANIZED LABOR MUST BE RECOGNIZED

To some few manufacturers in the United States who want to have educated, at public expense, young men and young women, who, upon their graduation from an industrial school, can be used as a club to lessen the rate of wages or can be used as strike breakers, an effective system of industrial education means one thing. To the wage earner, on the other hand, who wants to have his children taught better than he was taught, it means something far different. He has a different standard. He wants the children taught not merely dexterity of hand but he wants them taught in addition to the theory of mechanics, the reading of blue prints and the use of tools, also the history of commerce, the ancient guilds, the origin and growth of trades unionism, the story of the struggles through which it has gone, something of what real, true unionism means in the betterment of the men and women of our country today, so that after their years of study in the industrial school they do not come forth with their diploma to eat up their fellow human beings by inferior work at lesser wage during longer hours, and thus be an aid in undoing just what trades unionism has struggled so long and earnestly to win. They must start on their career at the foot of the ladder, well-drilled, of course, with a loyalty to their trade and a pride in their craftmanship and yet a feeling that they have much to learn by practical experience.

ORGANIZED LABOR MUST AID

We believe that in any effective system of industrial education from which the wage earner is to derive a benefit, organized labor must have a part. The young men and the young women educated in the various handicrafts which they have chosen in the trade schools, will be either the friends or the enemies of organized labor.

It is not necessary that the pupils should be taught to be rabid unionists or to be strike breakers, but they should have their consciences awakened and they should learn what trades unionism means, what it has accomplished, and what it hopes to attain. When once they have been taught to think we will risk the rest and an effective system of industrial education can confer no greater benefit upon the future workingmen and workingwomen than to teach them to think, in addition to using their hands.

We have said that an effective system of industrial education must include the co-operation of the trades unionist. The pedagogue sees in theory the value of such a training, the manufacturer sees the value of its productiveness, the trades unionist sees its human side and these young men and young women are to be his successors. He remembers his trials and his sacrifices and he goes with natural caution, but admit him to his proper place among the boards of control and among the practical instructors, give due weight to his advice, and then his attitude of suspicion will be turned to one of cordial co-operation.